

**AMENDMENTS TO THE CLAIMS:**

Please cancel without prejudice claims 2 and 11 and amend claims 1, 4, 5, 8-10, 13 and 16 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An electromagnetic signal processing system comprising: a plurality of optical fibre arrays  $(1, \dots, N)$ , each optical fibre array having a cluster of optical fibres with their one ends oriented to receive electromagnetic radiation from free-space and arranged to sequentially transmit the electromagnetic radiation to an array output; a signal detector, said signal detector having an input; ~~and~~ means for optically connecting the each array outputs to a subsequent array output through at least one optical delay; and means for optically connecting the  $N^{\text{th}}$  array output to transmit the electromagnetic radiation in sequence to said signal detector input.

2. (cancelled).

3. (previously presented) An electromagnetic signal processing system, according to Claim 1, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and the array group outputs are connected in series by respective optical delays to the signal detector input.

4. (currently amended) An electromagnetic signal processing system, according to Claim 1, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an array group output of one array group is connected to the first optical fibre array of an input to another array group.

5. (currently amended) An electromagnetic signal processing system, according to Claim 4, in which the connection of the array group output from one array group to the first array input of the other array group is through an optical delay.

6. (previously presented) An electromagnetic signal processing system, according to Claim 1, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an optical switch is arranged operatively between the array group outputs and the signal detector input.

7. (previously presented) An electromagnetic signal processing system, according to claim 1, including a source of electromagnetic radiation arranged to radiate discrete pulses of radiation through the array outputs towards the one end of the optical fibres for transmission into free-space..

8. (currently amended) An electromagnetic signal processing system, according to Claim 3, in which at least two of the array group outputs include a respective source of electromagnetic radiation arranged to radiate discrete pulses of radiation through the their respective array group outputs towards the one end of the optical fibres for transmission into free-space, and each

source of electromagnetic radiation is arranged so that it may produce its discrete pulses of radiation with different characteristics.

9. (currently amended) An electromagnetic signal processing system, according to Claim 21, in which at least one of the optical delays is provided by a length of optical fibre.

10. (currently amended) An electromagnetic signal processing system comprising:  
a plurality of optical fibre arrays (1, . . . N), each optical fibre array having a cluster of optical fibres with their one ends oriented to transmit electromagnetic radiation into free-space and arranged to sequentially receive the electromagnetic radiation from an array input;  
a source of electromagnetic radiation; and  
means for optically connecting ~~the~~each array inputs to a  
subsequent array input through at least one optical delay; and to receive the  
~~electromagnetic radiation in sequence from said source of electromagnetic radiation~~  
means for connecting the N<sup>th</sup> array input to the source of electromagnetic radiation.

11. (cancelled).

12. (previously presented) An electromagnetic signal processing system, according to Claim 10, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group input, and the array group inputs are connected in series by respective optical delays to the source of electromagnetic radiation.

13. (currently amended) An electromagnetic signal processing system, according to Claim 10, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group input, and an array group input of one array is connected to the first optical fibre arrayan output of another array group.

14. (original) An electromagnetic signal processing system, according to Claim 13, in which the connection of the array group input from one array group to the output of the other array group is through an optical delay.

15. (previously presented) An electromagnetic signal processing system, according to Claim 10, in which the optical fibres arrays are arranged as a plurality of array groups, each array group has a respective array group input, and an optical switch is arranged operatively between the array group inputs and the source of electromagnetic radiation.

16. (currently amended) An electromagnetic signal processing system, according to Claim ~~11~~10, in which at least one of the optical delays is provided by a length of optical fibre.

17. (previously presented) A laser-radar including an electromagnetic signal processing system according to claim 1.

18. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to receive electromagnetic radiation from free-space and arranged to

transmit the electromagnetic radiation to an array output, and the array outputs are connected to transmit the electromagnetic radiation in sequence to a signal detector input, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and the array group outputs are connected in series by respective optical delays to the signal detector input.

19. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to receive electromagnetic radiation from free-space and arranged to transmit the electromagnetic radiation to an array output, and the array outputs are connected to transmit the electromagnetic radiation in sequence to a signal detector input, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an array group output of one array group is connected to an input to another array group.

20. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to receive electromagnetic radiation from free-space and arranged to transmit the electromagnetic radiation to an array output, and the array outputs are connected to transmit the electromagnetic radiation in sequence to a signal detector input, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group output, and an optical switch is arranged operatively between the array group outputs and the signal detector input.

21. (previously presented) An electromagnetic signal processing system, according to Claim 18, in which at least two of the array group outputs include a respective source of electromagnetic radiation arranged to radiate discrete pulses of radiation through the array group outputs towards the one end of the optical fibres for transmission into free-space, and each source of electromagnetic radiation is arranged so that it may produce its discrete pulses of radiation with different characteristics.

22. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to transmit electromagnetic radiation into free-space and arranged to receive the electromagnetic radiation from an array input, and the array inputs are connected to receive the electromagnetic radiation in sequence from a source of electromagnetic radiation, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a respective array group input, and the array group inputs are connected in series by respective optical delays to the source of electromagnetic radiation.

23. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to transmit electromagnetic radiation into free-space and arranged to receive the electromagnetic radiation from an array input, and the array inputs are connected to receive the electromagnetic radiation in sequence from a source of electromagnetic radiation, in which the optical fibre arrays are arranged as a plurality of array groups, each array group has a

respective array group input, and an array group input of one array is connected to an output of another array group.

24. (previously presented) An electromagnetic signal processing system, according to Claim 23, in which the connection of the array group input from one array group to the output of the other array group is through an optical delay.

25. (previously presented) An electromagnetic signal processing system comprising a plurality of optical fibre arrays, each optical fibre array having a cluster of optical fibres with their one ends oriented to transmit electromagnetic radiation into free-space and arranged to receive the electromagnetic radiation from an array input, and the array inputs are connected to receive the electromagnetic radiation in sequence from a source of electromagnetic radiation, in which the optical fibres arrays are arranged as a plurality of array groups, each array group has a respective array group input, and an optical switch is arranged operatively between the array group inputs and the source of electromagnetic radiation.